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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/796,090	03/10/2004	Keijiro Take	249305US-6 DIV	2323
22850	7590	12/07/2004	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			PHAN, TRI H	
			ART UNIT	PAPER NUMBER
			2661	

DATE MAILED: 12/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/796,090

Applicant(s)

TAKE, KEIJIRO

Examiner

Tri H. Phan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 August 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 3-6 is/are pending in the application.
- 4a) Of the above claim(s) 1 and 2 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 3-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 09/156,703.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 1-3.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment/Arguments

1. This Office Action is in response to the Preliminary Amendment filed on August 31st, 2004. Claims 1-2 are now canceled and new claims 3-6 are added. Claims 3-6 are now pending in the application.

Priority

2. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in parent Application No. 09/156,703 filed on 09/18/1998.

Claim Objections

3. Claims 3-6 are objected to because of the following informalities:

In regard to claim 3, the phrase "the plurality of mobile stations" (line 4) should be correct to -- a plurality of mobile stations -- and the phrase "a switching of the first code" (lines 9-10) should be correct to -- the switching of the first code -- for clarity.

Same objections for claim 4, lines 4 and 9-10; claim 5, lines 5 and 11; claim 6, lines 5 and 11.

Appropriate corrections are required.

Claim Rejections - 35 USC § 103

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4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 3-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Tanno et al.** (U.S.6,078,572) in view of **Nakamura et al.** (U.S.5,740,168).

- In regard to claims 3 and 5, **Tanno** discloses in Figs. 1-7, 10-13 and in the respective portions of the specification about a base station used for the radio communication system employing code division multiple access 'CDMA' for radio access with a plurality of mobiles stations and providing multi-rate transmission (For example see Figs. 1, 10, 13; Abstract); wherein the base station comprises a traffic control portion for deciding and transmitting the spreading code and transmission timing ("*transmitting code and timing information*"; For example see Figs. 4-7; col. 6, line 45 through col. 7, line 12) as the transmission permission signal or on the basis of the state of traffic occurrence and usage as the indicating optimum spreading code to the mobile station for using or "switching" (For example see col. 9, lines 21-31; wherein the traffic control portion of the base station checks the state of traffic and utilization for the decision of using the optimum transmission timing and spreading code, e.g. "*second code*", instead of the desired or preassigned spreading code, e.g. "*first code*", being used by the mobile station as transmission request signal through message channels). **Tanno** does disclose about the base station in deciding the transmission timing and optimum spreading code for the

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mobile station, but fails to explicitly disclose about the “*timing information including an integer representing the frame*” at which the first code is switched to the second code. However, such implementation is known in the art.

For example, **Nakamura** discloses in Figs. 2A-B, 4, 20A-B, 25 and in the respective portions of the specification about the method and apparatus for switching radio links in the mobile communication (For example see Abstract); wherein each transceiver unit of the base station includes the switching timing set up unit, the switching timing information changing unit (“*timing information sending unit*”), the spread code switching unit (“*code switch informing unit*”) and the control unit (“*switching unit*”) as disclosed in Fig. 2B; for selecting and transmitting the timing information and new spreading code (“*second code*”; wherein, it is obvious that the being used spreading code is the “*first code*”) to the mobile station for switching the spreading codes in synch (“*switching in synchronization*”) between the base station and the mobile station, when detecting the link quality degradation, (For example see Figs. 4, 20A-B, 25; col. 6, line 18 through col. 7, line 38). **Nakamura** further discloses about the use of unique words in each frame for setting up the switching timing in prescribed frames, e.g. M and N frames (For example see Figs. 4, 6-7; col. 8, line 64 through col. 9, line 12), or in frame number (For example see Fig. 16; col. 14, lines 7-17), or in flag in each frame for period of time in boundary of frames (For example see Figs. 8-15; col. 11, lines 50-59); wherein, it is obvious the number or sequence of frames is in integer (“*timing information including an integer representing the frame*”).

Thus it would have been obvious to the person of ordinary skill in the art at the time of the invention was made to combine the invention as taught by **Nakamura**, by implement the

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unique word or flag in **Tanno**'s transmission timing information, with the motivation being to improve the ability to carry out the radio link switching at appropriate timing while maintaining in synchronization as disclosed in col. 7, lines 28-38; col. 8, lines 19-22.

- In regard to claims 4 and 6, **Tanno** discloses in Figs. 1-7, 10-13 and in the respective portions of the specification about a base station used for the radio communication system employing code division multiple access 'CDMA' for radio access with a plurality of mobiles stations and providing multi-rate transmission (For example see Figs. 1, 10, 13; Abstract); wherein the base station comprises a traffic control portion for deciding and transmitting the spreading code and transmission timing ("*transmitting code and timing information*"; For example see Figs. 4-7; col. 6, line 45 through col. 7, line 12) as the transmission permission signal or on the basis of the state of traffic occurrence and usage as the indicating optimum spreading code to the mobile station for using or "switching" (For example see col. 9, lines 21-31; wherein the traffic control portion of the base station checks the state of traffic and utilization for the decision of using the optimum transmission timing and spreading code, e.g. "*second code*", instead of the desired or preassigned spreading code, e.g. "*first code*", being used by the mobile station as transmission request signal through message channels). **Tanno** does disclose about the base station in deciding the transmission timing and optimum spreading code for the mobile station, but fails to explicitly disclose about the "*timing information regarding timing of switching*" the first code to the second code. However, such implementation is known in the art.

For example, **Nakamura** discloses in Figs. 2A-B, 4, 20A-B, 25 and in the respective portions of the specification about the method and apparatus for switching radio links in the

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mobile communication (For example see Abstract); wherein each transceiver unit of the base station includes the switching timing set up unit, the switching timing information changing unit (*"timing information sending unit"*), the spread code switching unit (*"code switch informing unit"*) and the control unit (*"switching unit"*) as disclosed in Fig. 2B; for selecting and transmitting the timing information and new spreading code (*"second code"*; wherein, it is obvious that the being used spreading code is the *"first code"*) to the mobile station for switching the spreading codes in synch (*"switching in synchronization"*) between the base station and the mobile station, when detecting the link quality degradation, (For example see Figs. 4, 20A-B, 25; col. 6, line 18 through col. 7, line 38). **Nakamura** further discloses about the timing carrying out for radio link switching (*"timing information regarding timing of switching"*) by using the unique words in each frame for setting up the switching timing in prescribed frames, e.g. M and N frames (For example see Figs. 4, 6-7; col. 8, line 64 through col. 9, line 12), or in frame number (For example see Fig. 16; col. 14, lines 7-17), or in flag in each frame for period of time in boundary of frames (For example see Figs. 8-15; col. 11, lines 50-59).

Thus it would have been obvious to the person of ordinary skill in the art at the time of the invention was made to combine the invention as taught by **Nakamura**, by implement the unique word or flag in **Tanno's** transmission timing information, with the motivation being to improve the ability to carry out the radio link switching at appropriate timing while maintaining in synchronization as disclosed in col. 7, lines 28-38; col. 8, lines 19-22.

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Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Harris et al. (U.S.6,400,755), **Blanchard et al.** (U.S.5,862,132), **Light et al.** (U.S.6,061,337), **Uchida et al.** (U.S.6,532,168), **Katsura et al.** (JP 9-261162), **Adachi et al.** (Wideband Multi-rate DS-CDMA Mobile Radio Access, December 1997, Asia Pacific Microwave Conference, APMC '97, Vol. 1, 2-5, pages 149-152) and **Okawa et al.** (Orthogonal Multi-Spreading Factor Forward Link for Coherent DS-CDMA Mobile Radio, October 1997, Universal Personal Communication Record, '97 Conference, 0-7803-3777-8/97 IEEE, Vol. 2, pages 618-622) are all cited to show devices and methods for improving transmission in the CDMA communication architectures, which are considered pertinent to the claimed invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tri H. Phan, whose telephone number is (571) 272-3074. The examiner can normally be reached on M-F (8:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth Vanderpuye can be reached on (571) 272-3078.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9314

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Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive,
Arlington, VA, Sixth Floor.

Any inquiry of a general nature or relating to the status of this application or proceeding
should be directed to the Technology Center 2600 Customer Service Office, whose telephone
number is (703) 305-3900.

Information regarding the status of an application may be obtained from the Patent
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system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Tri H. Phan
December 2, 2004



BRIAN NGUYEN
PRIMARY EXAMINER